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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/580,834 | 12/19/2006 | Cecilia Querci | 291093US0X PCT | 8284 |
| 22850 7590 06/10/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER BULLOCK, IN SUK C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1797 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 06/10/2009 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/580,834 | Applicant(s) QUERCI ET AL. | |
| | Examiner IN SUK BULLOCK | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

Reference AA listed on the IDS submitted 7/28/2006 contained incorrect number. Therefore, correct reference number 2003/0023125 has been listed on PTO-892.

Specification

The disclosure is objected to because of the following informalities: on page 5, lines 6 and 7, the words perrhenate and perrhenic are misspelled.

Appropriate correction is required.

Claim Objections

Claim 6 is objected to because of the following informalities: perrhenate and perrhenic are misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-14, 17, 20 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Application Publication 2003/0023125 to Euzen et al. (hereinafter "Euzen").

Euzen discloses a metathesis catalyst comprising: (1) an alumina carrier having a specific surface area of 10-400 m²/g, pore volume of at least 0.1 ml/g and preferably 0.1-1 ml/g; (2) 0.01 to 20 wt% rhenium; and (3) 0.01 to 10 wt% silicon in an oxide form. See page 1[0008-0012]. Rhenium precursors exemplified include rhenium heptoxide, ammonium perrhenate and perrhenic acid (page 1[0021]). Euzen further discloses the steps of catalyst preparation comprising: (a) a solution containing silicon is impregnated on the alumina carrier, (b) drying at a temperature of 0 to 250° C; (c) thermal activation by calcination in an oxidizing atmosphere at a temperature of 250 to 1000 ° C; (d) placing rhenium compound on the solid resulting from steps (a) to (c); (e) drying at a temperature of 0 to 250° C; (f) thermal activation by calcination at a temperature of 250 to 1000° C (page 2 [0028-0034]). The silicon sources used have compounds containing Si—O bonds (page 2[0023]). Euzen, also, discloses an olefin metathesis process in the presence of the inventive catalyst wherein the process comprises conducting the process in either gaseous or liquid phase, in batch or continuously, with or without a solvent, and a feed comprising monoolefins or polyolefins, linear or cyclic, carrying functional groups such as halogens or esters (page 2[0040, 0042, and 0043]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4, 15, 18, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as obvious over US Patent Application Publication 2003/0023125 to Euzen et al. (hereinafter "Euzen").

Euzen discloses a metathesis catalyst comprising: (1) an alumina carrier having a specific surface area of 10-400 m²/g, pore volume of at least 0.1 ml/g and preferably 0.1-1 ml/g; (2) 0.01 to 20 wt% rhenium; and (3) 0.01 to 10 wt% silicon in an oxide form.

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See page 1[0008-0012]. Rhenium precursors exemplified include rhenium heptoxide, ammonium perrhenate and perrhenic acid (page 1[0021]). Euzen further discloses the steps of catalyst preparation comprising: (a) a solution containing silicon is impregnated on the alumina carrier, (b) drying at a temperature of 0 to 250° C; (c) thermal activation by calcination in an oxidizing atmosphere at a temperature of 250 to 1000 ° C; (d) placing rhenium compound on the solid resulting from steps (a) to (c); (e) drying at a temperature of 0 to 250° C; (f) thermal activation by calcination at a temperature of 250 to 1000° C (page 2 [0028-0034]). The silicon sources used have compounds containing Si—O bonds (page 2[0023]). In Example 1, Euzen discloses after calcining the catalyst, the catalyst is subjected to a final cooling period wherein a stream of dry nitrogen is substituted for the air stream (page 3). Euzen, also, discloses an olefin metathesis process in the presence of the inventive catalyst wherein the process comprises conducting the process in either gaseous or liquid phase, in batch or continuously, with or without a solvent, and a feed comprising monoolefins or polyolefins, linear or cyclic, carrying functional groups such as halogens or esters (page 2[0040, 0042, and 0043]). The metathesis reaction conditions include a temperature in the range of 0 to 500° C and the pressure is not critical (page 2[0040 and 0041]).

Euzen fails to disclose the length of contact time between the silanizing agent and the alumina carrier.

However, it would have been obvious to one skilled in the art at the time the invention was made to have modified the process of Euzen by determining the optimum

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contact time for effective treatment of alumina with a silanizing agent. *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990); *In re Aller*, USPQ 233 (CCPA 1955).

The properties of the alumina carrier disclosed by Euzen overlaps with the claimed properties. Overlapping ranges have been held to be a prima facie evidence of obviousness. *In re Malagari*, 182 USPQ 549 (CCPA 1974).

With regard to the quantity of catalyst with respect to the reaction mixture (claims 22 and 23), it is within the level of one skilled in the art to determine the effective amount, including the range as claimed, of catalyst necessary for an effective metathesis reaction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IN SUK BULLOCK whose telephone number is (571)272-5954. The examiner can normally be reached on Monday - Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/In Suk Bullock/
Primary Examiner, Art Unit 1797